

REMARKS/ARGUMENTS

AMENDMENTS TO THE CLAIMS

Claims 4 and 10 have been amended as noted by the Examiner for clarification purposes.

Claim 1 has been amended to define the polymer chain π as a polymer chain selected from the group consisting of polybutadiene, polyisoprene, poly(styrene-co-butadiene), poly(styrene-co-butadiene-co-isoprene), poly(isoprene-co-styrene), and poly(butadiene-co-isoprene), as originally set in claim 7, which is now canceled.

Support for newly added claim 16 can be found at page 7 at around line 25.

Support for newly added claim 17 can be found at page 8 at around lines 2-10.

Support for newly added claim 18 can be found at page 8 at around line 12.

Support for newly added claim 19 can be found at page 9 at around line 1.

Support for newly added claim 20 can be found at page 9 at around line 8.

Support for newly added claim 21 can be found at page 9 at around lines 10-15.

Other amendments made to the independent claims include placing the claims in proper markush format.

ALLOWABLE SUBJECT MATTER

The allowance of Claims 2, 8, 12 and 14 is acknowledged.

CLAIM REJECTIONS – 35 USC § 112

The Examiner has rejected claims 4 and 10 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claims 4 and 10 have each been amended by replacing the term “can be” with “is” thereby making the claim definite and in condition for allowance.

OBVIOUSNESS-TYPE DOUBLE PATENTING

The Examiner has provisionally rejected claims 1, 6, and 7 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 13-31 of each individually of 11/900,664 and 11/900,686.

Applicants reserve the right to respond to this rejection. Moreover, Applicants maintain that in view of this response, this provisional rejection is the last pending issue and therefore should be removed by the Examiner.

The Examiner has further provisionally rejected claims 1, 4, 6, and 7 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 15, 16, 18, and 22 of copending Application No. 11/331,663.

Applicants reserve the right to respond to this rejection. Moreover, Applicants maintain that in view of this response, this provisional rejection is the last pending issue and therefore should be removed by the Examiner.

The Examiner has further rejected claims 1, 3, 6, 7, 9, 10, 13, and 15 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 20-68 of Fukushima U.S. Patent No. 7,186,845 (filed 10-20-2004).

Reconsideration is respectfully requested. Applicants maintain that the claimed invention, particularly as set forth in Claims 1, 3, 6, 7, 9, 10, 13, and 15 is distinct from the claims of U.S. Patent No. 7, 186,845. As is evident from the written description of the present application and the claimed subject matter, the functional group α , which is a sulfur-containing heterocycle, is present at the terminal end of the polymer. Indeed, the formula set forth in Claim 1 shows this positioning. Also, the written description makes evident the fact that the sulfur-containing heterocycle group is positioned at the end or tail-end of the polymer as a result of a terminating reaction. In contradistinction, the functional groups claimed by Fukushima '845 are ostensibly attached to the backbone of a polymer via a reaction wherein the "Q functionality" forms a 1,3-dipolar addition group to an unsaturated carbon-carbon bond. Thus, the functional groups of Fukushima exist along the backbone of the polymer that is functionalized –not necessarily at the terminal end of the polymer.

CLAIM REJECTIONS – 35 USC § 102

U.S. Pub. No. US 2002/0183461

The Examiner has rejected Claim 1 under 35 U.S.C. § 102(a) as being anticipated by Okuhira, et al., U.S. Publication No. US 2002/0183461. Claim 1 now recites that the polymer chain π is selected from the group consisting of polybutadiene, polyisoprene, poly(styrene-co-butadiene), poly(styrene-co-butadiene-co-isoprene), poly(isoprene-co-styrene), and poly(butadiene-co-isoprene). Okuhira teaches an epoxy resin and/or thiirane resin (paragraph [0007]), which is further specified by the formula



(paragraphs [0037-0045]. Accordingly, Claim 1 defines over Okuhira.

U.S. Pat. No. 5,374,364

The Examiner has rejected Claims 1 and 4 under 35 U.S.C. § 102(b) as being anticipated by Kapuscinski, et al., U.S. Patent No. 5,374,364. As noted above, Claim 1 now recites the polymer chain π is selected from the group consisting of polybutadiene, polyisoprene, poly(styrene-co-butadiene), poly(styrene-co-butadiene-co-isoprene), poly(isoprene-co-styrene), and poly(butadiene-co-isoprene). Kapuscinski teaches polymers (or “backbone” copolymers as described) that are olefin copolymers of EPM (ethylene-propylene copolymer) or EPDM (ethylene-propylene diene terpolymer) (column 2, lines 55-60; column 9, Claim 3). Accordingly, Claim 1 defines over Kapuscinski.

CONCLUSION

It is respectfully submitted that all pending claims are in condition for allowance. Accordingly, Applicants request early and favorable reconsideration in the form of a Notice of Allowance.

If necessary to affect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to affect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 06-0925 (Docket #: P02039US2A).

Respectfully submitted,

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Date

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